

CLAIMS

1. Oil Filtering device (1) for filtering oil used in rotational devices such as engines and transmission, in particular suitable for incorporation in an in-line oil filtering configuration, the device e.g. possibly being applied in combination and in direct connection with an oil cooler device (2), and comprising a filter housing (16) and a lid part (17) of said housing (16), possibly forming part of or being associated with said possibly combined cooler device (2), tightening means (10) being provided for pressurised interconnection of said lid (17) and the housing (16), the device (1) comprising an oil inlet port (3), and an oil outlet port (9) in connection with a cylindrical interior space (21) of said filter part (5; 20; 20A-20D), axial end faces (20F; 20AF-20DF) of the filter part (5; 20; 20A-20D) being formed by the filtering means of said part, and the device (1) being provided with internal, essentially flattened filter end face (20F; 20AF-20DF) contacting faces (14F, 24F, 16AF, 16BF, 17F), for axially closing a passage of oil, characterised in that at least one closing face (14F) is integrated in an insert member (14) fitting irregularities in shape of a relevant part (11) of the housing (16) at an axial side of the insert (14) opposing the closing face (14F), and being provided with an O-ring, preferably corresponding to the largest diameter of the insert member (14).
2. Filter Device (1) according to claim 1, characterised in that an oil passage closing face (16AF, 16BF) is integrated in a housing part (16A, 16B, 17).
3. Device according to claim 1 characterised in that the device (1) comprises a filter part (5; 20; 20A-20D) of which the radial thickness of its filter means is larger than the radial thickness of its interior space, and having a diameter matching that of the filter part (5; 20; 20A-20D), in which a housing part is provided with a dimple (26), positioning the filter part (5; 20; 20A-20D), the oil inlet port (3, 4) preferably being positioned radially outside the filter part (5; 20; 20A-20D).
4. Filter device (1) according to the previous claim, characterised in that an oil passage closing face (16AF, 16BF) is integrated in a housing wall part having a thickness of more than twice the thickness of the majority of the wall part of a relevant unit (16) of the housing (16, 17).
5. Filter device (1) according to any of the previous claims, characterised in that the filtering device (1) is provided with a by pass means (25, 28), such that during

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operation of any system in which the device (1) is incorporated, a minimum flow of oil through the filter device (1) is secured by said by pass means.

6. Filter device (1) according to any of the preceding claims, characterised in that the device is at least at one end provided with a separate oil flow closing member
5 (24), contacting an end face of the filter part at one axial end and contacting a housing part (17) via a spring loaded means (25).

7. Filter device (1) according to the previous claim, characterised in that the by pass means (28) in said device (1) is formed by an aperture (28) such as a bore, provided in a closing member (24), connecting the space in the filter device (1) exterior
10 to the filter part (20, 20A-D) to an interior space (21) of said filter part for receiving oil radially passed through the filter and for receiving any oil passed through said aperture (28).

8. Filter device according to the previous claim, characterised in that the by pass means comprises a pressure dependent valve means situated in, or connecting to said
15 aperture (28), said valve means at lowest oil pressures being in a closed mode, while changing to an increasing opened position in relation to an increasing actual oil pressure.

9. Filter device (1) according to the previous claim, characterised in that the pressure dependent valve means comprises an elastically deformable means, having
20 an internal passage opening up at increasing oil pressure against an internal pressure of the valve material, in particular resisting said elastically deformation with increased force at increased amount of deformation.

10. Filter device (1) according to the previous claim, characterised in that the valve means is at least partly incorporated in said aperture (28) of an end face closure
25 means (24).